



# Challenging the Status-Quo: Drift, Direct Inheritance and Reconstruction

Lawrence A. Reid  
*University of Hawai'i*

1. Introduction
2. Case 1. The Proto-Austronesian genitive plural personal noun marker
3. Case 2. Proto-Austronesian \*C<sub>1</sub>a- reduplication
4. Conclusion

## 1. Introduction

The appearance of grammatical morphemes that are identical, or at least similar, in form and meaning across a set of languages that are known to be genetically related, typically provide primary evidence for their reconstruction to the parent language of the group, and the structures of which they form a part are then also considered to be reconstructible. This has been the *modus operandi* of various linguists who have published on the morphology and syntax of Proto-Austronesian, resulting in the widely accepted belief that Proto-Austronesian had a syntax similar in many respects to that found in so-called Philippine-type languages, with a "voice" system, of one active and three passive constructions (Wolff 1973, 1979).

There are two major problems with this approach. The first is that the morphemes, especially when they are short, may in fact not be true cognates, their forms may be the end result of independent innovations. The second is that even if they can be shown to be cognates, the structures in which they function may have developed independently in each of the daughter languages from a different structure in the parent language. Languages, for example, having an accusative case alignment may have independently developed from one with an ergative case alignment, or vice versa.

The problem, in a nutshell, is to distinguish convergence or drift (as well as language contact—including sub- and superstratal effects) from direct inheritance, and to determine the relative weight that is given to conclusions based on the assumption that similar forms and functions in related languages necessarily imply reconstructibility of the same forms and functions to their shared parent language, as against assumptions regarding commonly observed directions of morphosyntactic change and resulting independently shared innovations.

The purpose of this paper is not to challenge the reconstruction of the syntactic patterns

of Proto-Austronesian, but to challenge the validity of two Proto-Austronesian morphemes that have been reconstructed on the basis of what appear to be cognates, but which on closer examination are probably the result of convergence in the daughter languages. The first is the reconstruction of PAN \*na 'genitive plural personal noun marker' (discussed in section 2). The other is the reconstruction of a fixed-vowel reduplicative pattern, PAN \*C<sub>1</sub>a-, with several nominal and verbal functions (discussed in section 3).<sup>1</sup> The methodological issues discussed in this paper are relevant not only to Austronesian, but also to other language families, including Sino-Tibetan.

## 2. Case 1. The Proto-Austronesian genitive plural personal noun marker

In an often-cited paper, Blust (1974) proposes on the basis of the data shown in Table 1, that the function of \*ni in Proto-Malayo-Polynesian was to connect two common nouns in a genitive relationship. Blust notes however that at least some of these phrasal correspondences between Toba Batak and Fijian could be products of convergent evolution, because they are in competition with reconstructed monomorphemic semantic equivalents, as with PMP \*luheq 'tears' (Blust 1974: 6). Subsequently, Blust (2005), noting the evidence provided in Reid (1978, 1979a, 1979b) for PMP \*ni being the marker of singular personal nouns, not common nouns, recognizes that the general claims of his previous article are brought into question, "despite the straightforward evidence" he used to support them.

Blust's main purpose in the later article is to tackle the problem of the function of the three genitive phrase markers that have been proposed for Proto-Austronesian: \*ni, \*na, and \*nu. He says, "While there is universal agreement on the form of this reconstructed system, reconstruction of the meanings/functions of these forms has been far more problematic" (Blust 2005: 105). He acknowledges that his earlier claims regarding the function of \*ni must be the result of independent, convergent developments, and then presents evidence that support his new claim that while "\*ni marked the genitive of singular personal nouns, \*na marked the genitive of plural personal nouns, and \*nu marked the genitive of common nouns", as shown in Table 2, in effect proposing a singular/plural contrast in personal noun marking.

Table 1 Proto-Malayo-Polynesian \*ni-phrases (adapted from Blust (1974))  
Proto-Malayo-Polynesian supporting evidence (TB = Toba Batak; Fij = Fijian)

*mata ni baReq	TB <i>mata ni baro</i>	Fij <i>mata ni bo</i> (eye GEN boil)	'core of a boil'
*mata ni susu	TB <i>mata ni susu</i>	Fij <i>mata ni susu</i> (eye GEN breast)	'nipple of the breast'
*mata ni wahiR	TB <i>mata ni aek</i>	Fij <i>mata ni wai</i> (eye GEN water)	'spring of water'
*wahiR ni mata	TB <i>aek ni mata</i>	Fij <i>wai ni mata</i> (water GEN eye)	'tears'
*mata ni hikan	TB <i>mata ni ihan</i>	Fij <i>mata ni ika</i> (eye GEN fish)	'callus, corn on foot'
*mata ni waRi	TB <i>mata ni ari</i>	Fij <i>mata ni siga</i> (eye GEN day)	'sun'
*mata ni haŋin	TB <i>mata ni aŋin</i> 'point of the compass'	Fij <i>mata ni cagi</i> (eye GEN wind)	'direction of the wind'

Blust's arguments consist of the following (Blust 2005: 218).

1. There is clear evidence, considering only the functions of the forms, and ignoring their cognacy, that in a wide range of Austronesian languages a three-way set of forms occurs, introducing genitive noun phrases that are headed respectively by common nouns, singular personal nouns, and plural personal nouns.<sup>2)</sup>
2. While many languages have a two-term system, no language is known that reflects genitives *\*na* and *\*nu*, but not *\*ni*. In such two-term systems, the reflex of *\*ni* almost always represents the genitive of personal nouns as against another term, a reflex of either *\*nu* or *\*na*, that represents the genitive of common nouns. Languages that reflect all three reconstructed genitive forms are rare. Evidence from those that do is therefore critical, as this enables us to distinguish between the functions of *\*na* and *\*nu*. There are at least two languages that meet this condition.
3. Central Amis, a Formosan language, has a three way set of genitive forms: *nu* 'common noun marker', *ni* 'singular proper noun marker', and *na* 'plural proper noun marker', while some of the dialects of Southern Bikol in the Central Philippines, part of a different primary branch of Austronesian, have a "virtually identical system" of genitive marking: *nu* 'genitive of common nouns, +referential ~ +past', *ni* 'genitive of persons (singular)', *na* 'genitive of persons (plural)'.<sup>3)</sup>

In order to evaluate the evidence that is presented in support of the reconstruction of a grammatical morpheme, it is necessary to look not only at the restricted set of a single case relation, such as genitive, but at the whole system within which the set occurs, since there is clear evidence that analogy and other irregular changes occur, which can affect not only the consonantal onset of forms but also their vocalic component as well (Reid 2006). It is necessary also to consider and provide well-motivated explanations for forms in related languages that have the same function as that given for the proposed reconstruction but which are not reflexes of it.

The first thing that is noticed when one compares the forms of the singular and plural personal noun markers across the different case relations (see Table 3), is that many of the plural markers, whether genitive or not, are disyllabic and at least bimorphemic, with the first syllable marking case (the consonants *s*, *n* or *k*) and the feature personal (the vowel *i*), and the second syllable marking plurality (= *ná* or its reduced form *-n*). The disyllabic forms are found across the Central Philippine group, including Tagalog, some of the Bisayan dialects, as well as in Mamanwa, the language spoken by Negritos that appears to be an isolate in the family. On the basis of their distribution, then *\*ni=ná* would be a better choice to mark genitive personal noun plural noun phrases in Proto-Central Philippines rather than simply *\*na*.

Table 2 Proto-Austronesian genitive phrase marking (adapted from Blust 2005)

<i>*ni</i>	'genitive of singular personal nouns'
<i>*na</i>	'genitive of plural personal nouns'
<i>*nu</i>	'genitive of common nouns'

But this again leaves us with a problem, since in languages across the Philippines,<sup>5)</sup> as well as in a number of Formosan languages,<sup>6)</sup> a reflex of \*na marks a genitive *singular common* noun phrase, not a *plural personal* noun phrase. If Blust is right, one would need to assume that in addition to the independent development of disyllabic plural marking of the type discussed above in each of the subgroups in which it appears, it would be necessary to postulate the independent development of \*na from a marker of plural personal genitive phrases to one that marked singular common noun phrases. There seems to be no *prima facie* motivation for such changes to take place.

An examination of the data in Table 4 that presents the genitive personal noun phrase markers in some of the Bisayan dialects shows that the form *ná*, is found in only two, very closely-related dialects of the Banton branch of Bisayan (BAN and ODG in the last line of the table), while reflexes of the proposed reconstruction \*ni=ná, are found only in Sibale (SIB, with shifted stress), the third dialect of the Banton branch, and in the geographically contigu-

Table 3 Personal noun phrase markers in some Central Philippine languages (adapted from Schachter and Otanes 1972: 113, Mintz 1971: 103, Zorc 1977: 82, Hussey 1966: 35, Miller and Miller 1976: 27, 29)

		UNMARKED		GENITIVE		OBLIQUE/LOCATIVE	
		singular	plural	singular	plural	singular	plural
TAGALOG		si	siná	ni	niná	kay	kiná
	ROM <sup>7)</sup>	si	siná	ni	niná	kay	kiná
BISAYAN	SIB	si	sína	ni	nína	kay	kína
	BAN, ODG	si	sa	ni	na	kay	kaná
BIKOL, NAGA		si	sa	ni	na	ki	ka
TAGBANWA, ABORLAN		si	na	ni	na	ki	kana
MAMANWA		si	sin	ni	nin	kan	—

Table 4 Genitive plural personal noun phrase markers in some Bisayan dialects (adapted from Zorc 1977: 82)

DIALECT	GENITIVE
SOR, GUB, N-S	nirá
S-L	níra
WAR	níra
BUT	níla
BOH, SUR	níla
CEB	níla-ni
Hil.	níla-ni
JAU	níla-ni
ROM	niná
SIB	nína
BAN, ODG	na

ous Romblomanon (ROM, in the preceding two lines of the table). The other dialects have a plural form, either *níra* or *níla* that is identical to the genitive third person plural pronoun, a reflex of Proto-Central Philippine (PCPh) *\*ni=da*, and corresponds to the marking of such phrases in languages from all areas of the Philippines, and from all subgroups.<sup>71</sup> The Cebuano (CEB), Hiligaynon (HIL) and Jaun-jaun (JAU) forms provide evidence to enable us to reconstruct plural genitive noun phrase marking for PCPh and provide a description of the grammaticalization processes that resulted in the *ná* 'plural' markers that Blust claimed were present in Proto-Austronesian.

In PCPh, if one wished to mark a personal noun phrase as plural, it was apparently done by concatenating an appropriately case-marked NP to a third person plural pronoun, thus *\*nídá, ni* Takdug 'they, Takdug', as in Table 5.

The grammaticalization processes that resulted in the Tagalog genitive plural personal noun marker *niná* are shown in Table 6, while the additional change that brought about the monosyllabic *na* genitive personal plural noun marker in a few of the Bisayan dialects is shown in Table 7.

An examination of the development of Amis *na* 'genitive personal plural noun marker' that Blust considered to be cognate with the Bikol and Bisayan forms with the same shape and meaning, shows that it too is the result of phonological changes and an analogical extension. In short, some of the Amis genitive plural pronouns, such as *namu* 'second person plural genitive pronoun' and *nangra* 'third person plural genitive pronoun' are characterized by the presence of an initial sequence *na-*, that resulted in a *na/ni* 'singular/plural genitive pronoun'

Table 5 Concatenated genitive noun phrase in Proto-Central Philippines

	Genitive
PCPh	<i>*[nídá] [ni n]</i>

Table 6 The development of Tagalog genitive associated nominal constructions

	Genitive	
PCPh	<i>*[nídá] [ni n]</i>	
PRE-TAG 1	<i>*[nídá-ni N]</i>	Reduction in structural complexity
PRE-TAG 2	<i>*[nílá-ni N]</i>	<i>*-d- &gt; *-l-</i>
PRE-TAG 3	<i>*[níná-ni N]</i>	Assimilation <i>*-l- &gt; *-n-</i>
TAG	<i>[níná N]</i>	Loss of redundant syllable (phrase is already marked as genitive)

Table 7 The development of genitive monosyllabic specifiers in some Bisayan languages

	Genitive	
PRE-BAN/SIB 1	<i>*[níná N]</i>	
BAN/SIB	<i>[na N]</i>	Loss of redundant syllable (phrase is already marked as genitive by initial <i>n-</i> )

contrast, and consequently a *na* 'genitive plural personal noun phrase marker'. But the *na*- in *namu* is a phonological reduction of *\*ni+amu*. A similar sequence of developments is found in the pronominal systems of some Philippine languages, such as Tagalog and Cebuano, where *\*ni=amən* > Tag *namin*, Ceb *namo* 'genitive first person exclusive plural pronoun' (compare Bikol *nyamo* which did not undergo vowel loss) (Reid 2007a: 245).

So that the Bikol and Bisayan phrase marking with *na* is only coincidentally the same as that in Amis, and neither is a true reflex of PAN *\*na* 'specifier of common noun phrases'.

### 3. Case 2. Proto-Austronesian *\*C<sub>1</sub>a-* reduplication

In this section I examine a frequently cited reconstruction (Cauquelin 2008: 18, etc.), with apparent reflexes in a wide range of Austronesian languages, but which I believe are in fact similar to one another only as a result of a common grammaticalization process. The reconstruction, PAN *\*C<sub>1</sub>a-*, was first proposed in Blust (1998) and was assigned a variety of unrelated functions, both verbal and nominal, in effect reconstructing a set of homophonous morphemes. Blust lists them as: "(1) the formation of a derivative set of numerals used in counting humans, (2) the formation of certain verb forms, and (3) the formation of instrumental nouns." A subsequent paper by Blust (1999: 169) however, claims Proto-Austronesian status for only two of these functions (numbers 1 and 3). Although noting the use of *C<sub>1</sub>a-* for forming certain verb forms, such as durative aspect, and other functions in Thao, he considers that these are innovative developments in Austronesian languages, "exploiting" the form he reconstructs to Proto-Austronesian. He further notes that, "[I]n several cases, *Ca-* reduplication apparently has evolved into *CV-* reduplication, thereby losing some of the markedness that makes it important for purposes of historical inference. As will be seen, this tendency is manifest not only with the numerals, but also in other lexical domains. A similar loss of distinctiveness is found in the domain of semantics, where *Ca-* reduplication to form instrumental nouns evidently was generalized to a larger and more diffuse lexical class in languages such as Balinese" (1998: 33).

Blust outlines the different verbal functions of *C<sub>1</sub>a-* reduplication in the Formosan languages Mayrinax Atayal, Thao, Tanan Rukai and Puyuma, noting that these include various aspectual meanings such as durative, iterative, progressive, continuous, repetitive, or future. He also includes examples from Tetun in East Timor, where *C<sub>1</sub>a-* reduplication also marks durative, repeated action, or plurality. Blust then cites Rukai (a Formosan language) and Tagalog (a Philippine language) as showing *C<sub>1</sub>V<sub>1</sub>-* reduplication to mark future or contemplated aspect,<sup>8)</sup> claiming that these, too, developed from fixed segment reduplication, a claim that is echoed in Mattes (2007). As Blust (1998: 30) notes, the appearance of a reduplicative pattern in several languages of one family does not automatically point towards a common inheritance of the reduplicants, but can also be a product of convergence. Yet despite this proviso, the tendency has been to reconstruct a reduplicative process, whenever similar forms and functions are found in languages belonging to different subgroups of the same family.<sup>9)</sup>

There are two opposing views that have appeared in the recent literature regarding the direction of change. The first, articulated by Blust (1998) specifically with reference to fixed segment reduplications (such as *C<sub>1</sub>a-* in Austronesian languages), is that partial reduplication,

such as  $C_1V_1-$ , developed from  $C_1a-$  by a process he refers to as ‘linguistic entropy’, whether deriving numeral, verbal, or nominal forms (1998: 33). The second view, contends that all partial reduplications result from normal processes of phonological erosion and assimilation from full reduplications (Bybee *et al.* 1994), and that fixed segment reduplications, such as  $C_1a-$ , are the end result of changes affecting  $C_1V_1-$  reduplications (Niepokuj 1997).

I similarly claim that  $C_1V_1-$  is one of the end points of the reduction and grammaticalization processes that affect full reduplication (although it is probably also true that partial reduplication may occur without historically prior full reduplication). I claim that  $C_1a-$  fixed segment reduplication in Austronesian languages is not the source of  $C_1V_1-$  reduplication, but is one further step in grammaticalization, motivated analogically by the frequent appearance of *a* as the first vowel in reduplicated bases, and by the frequency of a large number of fixed CV- prefixes with an *a* vowel, such as *pa-*, *ma-*, *ka-*, *ta-*, *sa-*, etc., which often occupy the same position relative to the base as  $C_1V_1-$  reduplication. Given the strong analogical base for fixed-vowel reduplicants, the probability that forms such as  $C_1a-$  are reconstructible to Proto-Austronesian, with one, let alone three distinct functions as proposed by Blust (1998) is highly unlikely, and any attempt to reconstruct a reduplicative process whether with an iconic or some post-iconic sense is methodologically unwise. The forms (and their functions) are far more likely to be the results of convergent development.

#### 4. Conclusion

The two cases discussed in this paper highlight the value of careful, “bottom-up” reconstruction which examines forms from closely-related dialects or languages in reconstructing their immediate parent language, and seeks for explanations that account for data that diverges from what one would expect from a proposed reconstruction.

In the first case, the problematic reconstruction requires the acceptance of a set of unmotivated changes in a wide range of Austronesian languages, specifically the development of a reconstructed genitive plural personal noun marker PAN \**na*, reflexes of which are present in a few languages in two widely separated geographic areas. The unmotivated changes involve a switch to a non-case specific general plural personal noun marker occurring on some disyllabic forms, and a switch to a singular common noun marker found in a wide range of Austronesian languages. An alternative explanation recognizes the relevance of third person plural pronouns as a means of marking plural personal nouns, and accounts for the irregular marking by appeal to well-known processes of sound change (assimilation), and grammaticalization.

In the second case, the problematic reconstruction requires the acceptance of fixed-segment reduplication for a parent language (specifically  $C_1a-$ ), when a large number of its daughters signal the same semantic distinctions with non-fixed vowel reduplication, such as  $C_1V_1C_2V_2-$  or simply  $C_1V_1-$ . An alternative explanation for the data is that fixed-vowel reduplication is secondary to regular reduplication, and is the result of commonly observed directions of morphosyntactic change. In the case discussed above, I claim that it is the high frequency of the vowel *a* in the first syllable of reduplicated bases and the great frequency of *a* in other monosyllabic prefixes that provides the analogical base for the change from  $C_1V_1-$

to C<sub>1</sub>a-.

In each case the problematic reconstructions give greater weight to “top-down” reconstruction, in which similar form and function in the daughter languages implies direct inheritance, while the possibility of convergence or drift as explanation, even though recognized as possible (as Blust does in both these cases), is not accepted as the best explanation. I consider it methodologically unwise to reconstruct reduplication to a parent language, because of its iconic nature, and the possibility for its reintroduction at any point in the history of a language, unless all of the daughter languages fully agree on its form and meaning. The wide range of reduplicative forms with the same function in Austronesian languages gives weight to this claim.

## Notes

- 1) For a full discussion of these issues, see Reid (2007a, To Appear) and (2007b), respectively.
- 2) Plural personal noun phrases have been described as inclusive or associative personal noun phrases, such as the Tagalog genitive *nina Juan* ‘John (and others) / of John (and others)’. See Lichtenberk (2000), and Reid (To appear) in which they are referred to as ASSOCIATED NOMINAL CONSTRUCTIONS, and the markers that introduce them as INCLUSORY SPECIFIERS (Reid To appear: 11).
- 3) These are similar systems, but are not “virtually identical”, since *nu* only marks genitive common nouns that are ‘+referential ~ +past’. Genitive common nouns that are non-past/non-referential in these dialects are marked by *nin* (Jason Lobel pers. comm.).
- 4) Language name abbreviations used in this paper are the following: AKL, Aklanon; AMI, Amis; BAN, Bantayan; BLK, Bulaknon; BOH, Boholano; BUT, Butuanon; CAP, Capiznon; CEB, Cebuano; DSP, Dispolonon; DTG, Datagnon; GUB, Gubat (South Sorsogon); HIL, Hiligaynon (Ilonggo); JAU, Jaunjaun; KAV, Kavalan; KIN, Kinaray-a; KUY, Kuyonon; LEY, Leyte; LOK, Looknon; MAS, Mashate; N-S, Northern Samar; ODI, Odianganon; PAN, Proto-Austronesian; PAN, Pandan; PCPH, Proto-Central Philippines; ROM, Romblomanon; SEM, Semirara; SIB, Sibale; S-L, Samar-Leyte; SNT, Santa Teresa; SOR, Sorsogonon; SUR, Surigaonon; TSG, Tausug; WAR, Waray.
- 5) These include Tagalog, Mamanwa, the Bisayan dialects spoken on Surigao, the Subanen languages, and most of the languages in each of the subgroups of Northern Luzon.
- 6) These include Kavalan (a sister language of Amis within the East Formosan subgroup) and Mayrinax Atayal.
- 7) Blust considers phrase marking by a reflex of a plural third person pronoun \*da to be analogical developments based on the similarity in form between them and his reconstructed PAN \*na.
- 8) The Tagalog reduplicative pattern is actually CV-, not CV-, as discussed in Reid (2007b: 4).
- 9) Blust (1998: 47) states ‘Given this distribution, there can be no doubt that Ca- nominals were found in [Proto-Austronesian]’

## References

- Blust, Robert A.  
 1974 Proto-Austronesian syntax: The first step. *Oceanic Linguistics* 13(1-2): 1–15.  
 1998 Ca- reduplication and Proto-Austronesian grammar. *Oceanic Linguistics* 37(1): 29–64.



- 1999 Squib: A note on covert structure: Ca- reduplication in Amis. *Oceanic Linguistics* 38(1): 168–174.
- 2005 A note on the history of genitive marking in Austronesian languages. *Oceanic Linguistics* 44: 215–222.
- Bybee, Joan L., Revere D. Perkins, and William Pagliuca  
 1994 *The Evolution of Grammar: Tense, Aspect and Modality in the Languages of the World*. Chicago, London: University of Chicago Press.
- Cauquelin, Josiane  
 2008 *Ritual Texts of the Last Traditional Practitioners of Nanwang Puyuma*. Language and Linguistics Monograph Series A23. Taipei: Institute of Linguistics, Academia Sinica.
- Hussey, Jean  
 1966 Noun phrase markers in Aborlan Tagbanwa. In *Papers in Philippine Linguistics No. 1*, pp. 33–38. Canberra: The Australian National University.
- Lichtenberk, Frantisek  
 2000 Inclusive pronominals. *Oceanic Linguistics* 39(1): 1–32.
- Mattes, Veronika  
 2007 Types of reduplication: A case study of Bikol. Ph.D. dissertation, Karl-Franzens-Universität, Graz, Austria.
- Miller, Jeanne, and Helen Miller  
 1976 *Mamanwa Grammar*. Language Data: Asian-Pacific Series No. 8. Huntington Beach, California: Summer Institute of Linguistics.
- Mintz, Malcolm W.  
 1971 *Bikol Grammar Notes*. PALI Language Texts: Philippines. Honolulu: University of Hawai'i Press.
- Niepokuj, Mary  
 1997 *The Development of Verbal Reduplication in Indo-European*. Journal of Indo-European Studies Monograph 24. Washington: Institute for the Study of Man.
- Reid, Lawrence A.  
 1978 Problems in the reconstruction of Proto-Philippine construction markers. In S. A. Wurm and Lois Carrington (eds.) *Second International Conference on Austronesian Linguistics: Proceedings*, vol. 1, pp. 33–66. Canberra: Department of Linguistics, Research School of Pacific Studies, Australian National University.
- 1979a PAN genitive alternation: The Philippine evidence. *Working Papers in Linguistics (Department of Linguistics, University of Hawai'i)* 11(2): 45–54.
- 1979b Evidence for Proto-Philippine nominative marking. *Philippine Journal of Linguistics* 10 (1-2): 1–20.
- 2006 On the origin of Philippine vowel grades. *Oceanic Linguistics* 45(2): 457–473.
- 2007a Another look at the marking of plural personal noun constructions in Austronesian languages. *Oceanic Linguistics* 46(1): 232–252.
- 2007b Ambiguity, abductive and deductive change and the case of human noun pluralization in Northern Philippine languages. Paper presented at the Graz Reduplication Conference 2007: Diachrony & Productivity, University of Graz, Austria, September 30–October 3, 2007.

- To Appear Inclusive constructions and their development in Philippine languages. In Alexander Adelaar and Andrew K. Pawley (eds.) *To Be Announced*, Canberra: Pacific Linguistics.
- Schachter, Paul, and Fe T. Otanes  
 1972 *Tagalog Reference Grammar*. Berkeley/Los Angeles/London: University of California Press.
- Wolff, John U.  
 1973 Verbal inflection in Proto-Austronesian. In Andrew Gonzalez (ed.) *Parangal Kay Cecilio Lopez: Essays in Honor of Cecilio Lopez on His Seventy-fifth Birthday*, pp. 71–91. Quezon City: Linguistic Society of the Philippines.
- 1979 Verbal morphology and verbal sentences in Proto-Austronesian. In Paz Buenaventura Naylor (ed.) *Austronesian Studies: Papers from the Second Eastern Conference on Austronesian languages*, pp. 153–167. Ann Arbor: Center for South and Southeast Asian Studies, University of Michigan.
- Zorc, R. David Paul  
 1977 *The Bisayan Dialects of the Philippines: Subgrouping and Reconstruction*. Pacific Linguistics C-44. Canberra: Department of Linguistics, Research School of Pacific Studies, Australian National University.